Appl. No. 10/081,551
Amdt. dated June 21, 2006
Reply to Notice of Non-Compliant Amdt. of June 7, 2006

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.   (Currently Amended) A login authentication method of a user who uses a business system and a commercial service system, comprising the steps of:

sending a request for use of said commercial service system from a terminal that the user is using to said business system, when the user who logs in said business system uses said commercial service system[[,]] ~~with respect to the user~~;

checking ~~a commercial service use authority of the user~~ whether the user is authorized to use the commercial service system, and ~~returning selects~~ selecting one password from a password list created prior to authentication and sending the password to said terminal, with respect to said business system that received the request [[of]] for use;

sending the ~~returned~~ password to said commercial service system, with respect to said terminal; and

comparing the password with ~~accounting~~ authentication information created prior to the authentication, permitting login when they match, and ~~nullifying~~ invalidating said [[used]] password, ~~with respect to said commercial service system~~ wherein the authentication information includes a plurality of different passwords so that a plurality of users of the business system need only one authentication information to use the commercial system.

2.   (Currently Amended) The login authentication method according to claim 1, wherein said business system generates said password list using a random number, sends said password list to said commercial service system, and creates ~~accounting~~ authentication information.

3.   (Currently Amended) The login authentication method according to claim 1, wherein said commercial service system generates said ~~accounting~~ authentication information using a random number, sends said ~~accounting~~ authentication information to said business system, and creates said password list.

4.   (Currently Amended) The login authentication method according to claim 1, wherein said business system generates said password list using a numerical value to which an optional numerical value and a one-way function were applied sequentially to the numerical value, sends the ~~applicable~~ total number of times [[of]] said one-way function was applied to generate a final result and the numerical value of ~~a sequentially applied~~ the final result to said commercial service system, and creates said ~~accounting~~ authentication information, and when use of a commercial service system is requested from said terminal, said business system returns [[a]] the password and the ~~applicable~~ number of times [[of]] said one-way function was applied to generate the password to said terminal, compares the numerical value of a result in which said one-way function was applied to the password sent from said terminal [[only]] for ~~a part in which~~ the ~~applicable~~ number of times [[of]] said one-way function was applied to said password [[was]] subtracted from the ~~applicable~~ total number of times said one-way function was applied to [[of]] said final result, with the numerical value of said final result in said ~~accounting~~ authentication information when login permission in said commercial service system is determined, and permits login if they match.

5.   (Currently Amended) The login authentication method according to claim 4, wherein the numerical value of the ~~sequentially applied~~ result is retained when the login permission in said commercial service system is determined thereby to apply [[it]] the result to the numerical value of another result in which the numerical value of the another result was retained and in which ~~for the part of~~ the ~~applicable~~ number of times [[of]] said one-way function was applied to ~~of the retained~~ the numerical value of the another result was subtracted from the ~~applicable~~ number of times [[of]] said one-way function was applied to ~~of a determining~~ another password received from the business system.

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6.   (Currently Amended) A login authentication program of a user who uses a business system and a commercial service system, comprising the steps of:

sending a request for use of said commercial service system from said terminal that the user is using to said business system when the user who logs in said business system uses said commercial service system;

checking ~~a commercial service use authority~~ whether the user is authorized to use the commercial service system, selecting a password from a password list created prior to authentication, and returning the password to said terminal ~~with respect to said business system~~;

sending the ~~returned~~ password to said commercial service system ~~with respect to said terminal~~; and

comparing the password with ~~accounting~~ authentication information created prior to authentication, permitting login when they match, and ~~nullifying~~ invalidating said [[used]] password ~~with respect to said commercial service system,~~ wherein the authentication information includes a plurality of different passwords so that a plurality of users of the business system need only one authentication information to use the commercial system.

7.   (Currently Amended) The login authentication program according to claim 6, further comprising the step of allowing said business system to generate said password list using a random number, send said password list to said commercial service system, and create said ~~accounting~~ authentication information.

8.   (Currently Amended) The login authentication program according to claim 6, further comprising the step of allowing said commercial service system to generate said ~~accounting~~ authentication information using a random number, send said ~~accounting~~ authentication information to said business system, and create said password list.

9.   (Currently Amended) The login authentication program according to claim 6, further comprising the steps of:

allowing said business system to generate said password list using a value to which an optional value and a one-way function are applied sequentially to the value, send the applicable total number of times [[of]] said one-way function was applied to generate a final result and a numerical value of the sequentially applied final result, and create said accounting authentication information; and

allowing said business system to return a password and the applicable number of times [[of]] said one-way function was applied to the password to said terminal when use of a commercial service system is requested from said terminal, compare a result in which said one-way function was applied to the password sent from said terminal [[only]] for a part in which the applicable number of times [[of]] said one-way function was applied to [[for]] the password [[was]] subtracted from the applicable total number of times the one-way function was applied to [[of]] said final result, with the numerical value of said final result in said accounting authentication information, and permit login if they match.

10.   (Currently Amended) The login authentication program according to claim 9, further comprising the step of retaining the numerical value of the sequentially applied result when the login permission in said commercial service system is determined, thereby to apply [[it]] the numerical value of the result to the numerical value of another result in which the numerical value of the another result was retained for the part in which the number of times [[of]] said one-way function was applied to [[of]] the numerical value of the retained another result [[was]] subtracted from the applicable number of times [[of]] said one-way function of a determining was applied to generate another password.